



Voluntary radiation measurement team to enhance measurement capacity in Finland

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Introduction

In a large scale radiation emergency there is a huge need for radiation measurements.

- Use of a nuclear weapon
- A severe accident at a nuclear power plant in Finland or in neighboring countries
- A radiological dispersion device

Radiation and Nuclear Safety Authority (STUK) has together with The National Defense Training Association of Finland (MPK), National Emergency Supply Agency (NESA) and The Finnish Reserve Officers' Federation launched in 2017 a co-operation program to enhance the national radiation measurement preparedness by recruiting, training and equipping a voluntary radiation measurement team.

The team

The voluntary radiation measurement team consists of about 40 persons divided into three measurement groups and one supporting group. In total about 100 persons will be recruited and trained to be able to quickly form the team when ever needed.

The team will be capable to independently carry out its duties, for example, to determine the radiation situation, to check the contamination of people and vehicles as well as to support other organizations with radiation measurements.

The background of the volunteers is diverse. There are different kinds of tasks available for the volunteers, from a member of monitoring patrol to more challenging tasks like trainer or the operative leader in the volunteer organization.

Principles

- The team is anticipated to start measurements within 24 hours after demand
- A group of nine persons is the smallest unit to be used independently
- Team member status is "emergency helper"
- Team carries out measurements from/during the intermediate phase of an emergency
- Focus on radiation measurements, especially ext. contamination measurement of people



Equipment

The team will be equipped with diverse measurement tools. The National Emergency Supply Agency (NESA) supports financially the start-up procurements.

Examples of measurement equipment:

- Personal alarming dosimeters
- Dose rate survey meters
- Surface contamination monitors
- Alpha/beta counters for smear samples
- Lightweight, transportable portal monitors
- Portable spectrometers for detection and identification
- Portable air samplers



Equipment

Examples of other equipment:

- Clothing and footwear (winter&summer)
- Protective clothing (overalls, gloves, respirators, full mask respirators, helmets etc.)
- Rugged laptops
- Tetra phones
- Tent & generator
- Tool kit
- First aid kit
- Sampling equipment & containers

& other accessories



Training

The team is trained to set up and operate a radiation monitoring post.

The basic training lasts for two weekends (44 hours) and includes both lectures and hands-on training.

The focus lays primarily on the measurement of potentially contaminated people. In later phase the measurement of the surroundings and infrastructure will become important.



Basic training

- Radiation and radiation protection, general principles
- Radiation and nuclear emergencies, protective actions
- The organization and tasks of the radiation measurement team
- Radiation measurement devices and other equipment
- How to carry out radiation measurements
- Protective clothing & safe working
- Biological effects of the ionizing radiation
- Meeting and handling potentially exposed, worried, anxious people
- Drills and hands-on training



Progress

The recruiting of the volunteers was started in 2017. A pilot training program for 20 persons was arranged in the spring 2018. The pilot course was successful. The participants were very motivated and enthusiastic. In the autumn 2018 the second basic training course was arranged for a larger group of volunteers.

At the moment about 40 persons have expressed their intentions to continue. They have undergone a medical examination and security clearance.

Further recruitments as well as equipping the team will continue. In the spring 2019 an advanced course for trainers and the third basic training course will be arranged. The team will participate in a (late-phase) NPP exercise together with local rescue department, representatives of the municipality and Finnish Red Cross in the autumn 2019 .

Thank you for your attention!



